



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,186	11/05/2001	Yasushi Kohno	TKA0032	5700

7590 05/08/2006

MICHAEL S. GZYBOWSKI  
BUTZEL LONG  
350 SOUTH MAIN STREET  
SUITE 300  
ANN ARBOR, MI 48104

EXAMINER

VALENTI, ANDREA M

ART UNIT	PAPER NUMBER
3643	

DATE MAILED: 05/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/007,186

Applicant(s)

KOHNO, YASUSHI

Examiner

Andrea M. Valenti

Art Unit

3643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,4 and 5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4 and 5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,107,051 to Job et al in view of U.S. Patent No. 5,294,593 to Khan.

Regarding Claims 1, 4 and 5, Job teaches a method of preventing defective germination and defective rosette formation of a plant seed which tends to suffer from defective germination and defective rosette formation during growth thereof (Job Col. 1 line 41-60 and line 51 since pre-sowing hydration treatment is an old and notoriously well-known means for improvement of germination quality, it also reduces defective germination and defective rosette formation) comprising the steps of: a) leaving the plant seed to stand in a highly watery condition at a low temperature in a dark place for sufficient period of time of from several days to several months (Job Col. 4 line 6 and Col. 10 line 64) to inhibit defective germination and/or rosette formation of the plant seed, the dark place being sufficiently dark to prevent the plant seed from germinating (Job Col. 3 line 39-44); and b) drying the plant seed immediately after leaving the plant seed to stand in the highly watery condition at the low temperature in a dark place (Job Col. 3 line 44-46), before the seed becomes active, wherein in the step a) of leaving the

Art Unit: 3643

plant seed in a highly watery condition the plant seed is immersed in water at a temperature of from 0-15 degrees C (Job Col. 3 line 65 and Col. 4 line 6 and line 17-30 that lower temperatures allows for a more controlled hydration) and a relative humidity of 100% (Job teaches the seeds are "soaked" in a cover dish thus the humidity is 100% Col. 3 line 46-50) and wherein in the step of drying the plant seed (Job Col. 3 line 45 and Col. 3 line 55-56 teaches they are store in the dark). However, Job does not implicitly teach that the seeds are dried in a dark place sufficiently dark to prevent exposure of the plant seed to an amount of light that is sufficient to cause the plant seed to germinate. Khan teaches that it is old and notoriously well-known to dry hydrated seeds in the dark to prevent germination (Khan Col. 3 line 40-49). It would have been obvious to one of ordinary skill in the art to modify the teachings of Job with the teachings of Khan at the time of the invention for the advantage of preventing germination to enable the seeds to be stored for a duration of time after treatment.

Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over An evaluation of the potential of low temperature pre-sowing treatments of tomato seeds as a means of improving germination performance, Ann. Appl. Biol. (1987), 110, pg. 185-195 by Coolbear et al. in view of U.S. Patent No. 5,294,593 to Khan.

Regarding Claims 1 and 4, Coolbear et al teaches a method of preventing defective germination and/or defective rosette formation of a plant seed which tends to suffer from defective germination and/or defective rosette formation during growth thereof (Coolbear Summary line 1 and Introduction line 1 since pre-sowing hydration

Art Unit: 3643

treatment is an old and notoriously well-known means for improvement of germination quality, it reduces defective germination and defective rosette formation) comprising the steps of: a) leaving the plant seed to stand in a highly watery condition at a low temperature in a dark place for sufficient period of time of from several days to several months (Coolbear Methods, Imbibition studies, line 3) to inhibit defective germination or rosette formation of the plant seed, the dark place being sufficiently dark to prevent the plant seed from germinating (Coolbear Methods first two sentences); and b) drying the plant seed immediately after leaving the plant seed to stand in the highly watery condition at the low temperature in a dark place (Coolbear Methods lines 4-6), before the seed becomes active, wherein in the step a) of leaving the plant seed in a highly watery condition the plant seed is immersed in water at a temperature of from 0-15 degrees C (Coolbear Methods second sentence) and a inherently relative humidity of 100% (Coolbear teaches the seeds are in a cover dish and are continuously kept moist thus the humidity is 100%, Methods line 2-4) and wherein in the step b) of drying the plant seed (Coolbear Methods line 5). However, Job does not implicitly teach that the seeds are dried in a dark place sufficiently dark to prevent exposure of the plant seed to an amount of light that is sufficient to cause the plant seed to germinate. Khan teaches that it is old and notoriously well-known hydrate and to dry seeds in the dark to prevent germination (Khan Col. 3 line 40-49). It would have been obvious to one of ordinary skill in the art to modify the teachings of Job with the teachings of Khan at the time of the invention for the advantage of preventing germination to enable the seeds to be stored for a duration of time after treatment.

### ***Response to Arguments***

Applicant's arguments filed 24 February 2006 have been fully considered but they are not persuasive.

Cited prior art references Job and Coolbear were cited to teach general knowledge of one of ordinary skill in the art of plant husbandry. Applicant has merely claimed a series of pre-germination methods steps that are old and notoriously well-known in the art of plant husbandry. Job and Coolbear were cited to teach that these pre-germination treatment steps are known methods of effecting plant germination and thus effecting plant development.

In other words, Job was cited purely to teach that the pre-germination method steps claimed by applicant are notoriously well-known pre-germination procedures. Job teaches a pre-germination method of hydrating the seeds and drying the seeds in a controlled manner (Job Col. 1 line 43-45). It is general knowledge in the art that light and darkness have effects on germination depending on the seed type. Some seeds germinate when exposed to light. Thus it is general knowledge to control the germination by providing light or dark environments for the seeds. If a seed variety is a light germinator, e.g. lettuce, it would be obvious to one of ordinary skill in the art to conduct the pre-germination steps in the dark and to store the seed in the dark so it doesn't prematurely germinate. Therefore, it would have been obvious to one of ordinary skill in the art to soak or dry the seeds in the dark depending on the type of seed selected. Job clearly states that the method steps of soaking seeds under defined

conditions at a low temperature to avoid germination and then to dry the seeds is a known pre-germination method (Job Col. 3 line 29 and 42-45).

Applicant argues that there is no reason to dry the seeds taught by Job. Examiner disagrees with applicant's statement since Job clearly teaches that the drying step is a notoriously well-known pre-germination treatments step and Job explicitly teaches this step (Job Col. 3 line 45).

The same holds true for the teachings of Coolbear. The Coolbear reference was cited purely to teach that pre-germination treatment of seeds involving soaking the seeds in low temperatures and then drying the seeds is notoriously old and well-known and that it is general knowledge of one of ordinary skill in the art.

Examiner maintains that improved germination goes hand in hand with improved prevention of defective rosette formation. The examiner maintains in some respect that these two seed developmental stages are directly proportional. If effective germination of the seeds is increased then more seeds will under go rosette formation then if less seeds germinate less seeds will effectively have rosette formation. The pre-germination steps taught by the cited prior art of record teaches each and every limitation of applicant's claims; therefore, examiner maintains that if these method steps were performed it would result in preventing defective rosette formation. Examiner maintains there is sufficient motivation and expectation of success for one of ordinary skill in the art to dry the seeds in the dark. The Khan reference was cited merely to teach the general knowledge that it is known to dry seeds in the dark for seeds that are light germinators, as taught by Khan.

Art Unit: 3643

Examiner maintains that applicant has not patentably distinguished over the teachings of the cited art of record.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrea M. Valenti whose telephone number is 571-272-6895. The examiner can normally be reached on 7:00am-5:30pm M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter M. Poon can be reached on 571-272-6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 3643

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Andrea M. Valenti  
Patent Examiner  
Art Unit 3643

03 May 2006